

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Takayuki TSUKIZAWA et al.	Art Unit: 3729
Application No.: 10/596,312	
Confirmation No.: 5223	Examiner: T. Phan
Filing or 371(c) Date: June 8, 2006	
Title: METHOD FOR MANUFACTURING CHIP ELECTRONIC COMPONENT-MOUNTED CERAMIC SUBSTRATE	

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated November 20, 2009 and the Advisory Action dated March 8, 2010, please consider Applicant's arguments and remarks concerning the rejection issued in the Office Action dated November 20, 2009.

Claims 16-22 were rejected under 35 U.S.C. § 102(b) as being anticipated by Sakamoto et al. (U.S. 6,228,196). Applicant respectfully traverses the rejection of Claims 16-22.

Claim 16 recites, in part:

mounting a chip electronic component including a ceramic sintered compact defining an element assembly and terminal electrodes on a ceramic green body having conductors thereon such that the terminal electrodes are brought into contact with the corresponding conductors; and

firing the ceramic green body having the chip electronic component so as to integrate the conductors on the ceramic green body with the corresponding terminal electrodes of the chip electronic component by sintering.

In the Response to Arguments section on pages 2 and 3 of the Office Action dated November 20, 2009, the Examiner stated:

Applicants assert that the prior art Sakamoto et al. do not teach the limitation of "mounting a chip electronic component including a ceramic sintered compact defining . . ." (Remarks, pages 8 and 9; Claim 16, line 3). In response, the claims are viewed in light of the specification and the claimed limitation "mounting a chip electronic component including a ceramic sintered compact defining . . ." is construed as "mounting a chip electronic component including a whole ceramic sintered compact group (Fig. 1, 1) defining . . ." where the prior art Sakamoto et al at a minimum teach the claimed limitation. Furthermore, with respect to the applicants' remarks on page 8 about the claimed limitation of mounting a chip electronic component without any bonding material not taught by the prior art Sakamoto et al, in response to these remarks, the examiner needs to emphasize that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims, which are judged with their broadest reasonable interpretation. Moreover, it appears that applicants fail to recognize the scope of the claims when judged in view of the prior art Sakamoto et al. (See MPEP 2111 and In re Geuns, 26 USPQ 2nd 1057 (Fed. Cir. 1993)).

Applicant respectfully disagrees.

Each of the Examiner's allegations in the Response to Arguments is completely irrelevant to the features recited in Applicant's Claim 16 and to Applicant's arguments presented in the Amendment filed on July 31, 2009. Regardless of the Examiner's interpretation of the features recited in Applicant's Claim 16, Applicant's Claim 16 clearly requires that a ceramic sintered compact be mounted on a ceramic green body, and that the ceramic green body having the ceramic sintered compact mounted thereon be fired together. As is extremely well-known in the art, a "green" ceramic is, by definition, a ceramic material before sintering. That is a "green" ceramic material is, by definition, an unsintered ceramic material.

In contrast to Applicant's Claim 16, as described in the Amendment filed on July 31, 2009, col. 12, lines 49-65 and col. 14, lines 51-54 of Sakamoto et al. disclose:

A compact block for a capacitor containing a **raw ceramic functional material 10g to be the above-mentioned capacitor 10 and a compact block for an inductor containing a raw ceramic functional material 11g to be the inductor 11** are prepared, respectively.

The compact block for a capacitor 10g includes a ceramic dielectric

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member as the ceramic functional material so as to provide a laminated structure where multi-layer internal conductors 21 **are formed via a raw dielectric sheet 20 containing the ceramic dielectric member**. Terminal electrodes 22 and 23 are formed at end faces of the compact block 10 facing to each other. The internal electrodes 21 are provided such that ones to be connected with the terminal electrode 22 at one side and ones to be connected with the terminal electrode 23 at the other side are arranged alternately as in an internal electrode in a known laminated ceramic capacitor.

...

With the compact blocks 10g and 11g, and the ceramic green sheets 2g to 8g accordingly obtained, a raw composite compact 1g to be the multi-layer ceramic substrate 1 after baking can be produced as follows. (emphasis added)

That is, none of the chip electronic components 10-12 of Sakamoto et al. include a ceramic sintered compact when they are mounted on/in the ceramic green unsintered body 1g. Instead, each of the electronic components 10-12 of Sakamoto et al. include ceramic green unsintered sheets when they are mounted on/in the ceramic green unsintered body 1g. Then, after the entire ceramic green unsintered body 1g, including the electronic components 10-12 comprised of ceramic green sheets, is assembled, the entire ceramic green unsintered body 1g is fired to form the sintered multilayer ceramic component.

Thus, Sakamoto et al. certainly fails to teach or suggest the features and steps of “mounting a chip electronic component including a ceramic sintered compact defining an element assembly and terminal electrodes on a ceramic green body having conductors thereon such that the terminal electrodes are brought into contact with the corresponding conductors” and “firing the ceramic green body having the chip electronic component so as to integrate the conductors on the ceramic green body with the corresponding terminal electrodes of the chip electronic component by sintering” as recited in Applicant’s Claim 16.

On the Continuation Sheet of the Advisory Action dated March 8, 2010, the Examiner alleged, “Sakamoto et al. do provide several teachings or suggestions for an ordinary skill in the art to apply to the claimed invention. In one suggestion, Sakamoto et al. do teach a preliminary baking of a passive component before its burial into the green sheets (Col. 10, lines 46-49).”

Applicant respectfully disagrees.

Col. 10, lines 44-52 of Sakamoto et al. disclose, “Moreover, in these aspects of the present invention, **if the passive component is provided as the compact block, since a raw composite compact with the raw compact block buried therein is baked, compared with the case of baking in the state with a preliminarily baked passive component buried therein, the need of strictly administrating the contraction behavior at the time of baking can be eliminated**, and thus the selection range of the material to be used in a ceramic green sheet to be the laminated member can be widened” (emphasis added).

In other words, col. 10, lines 44-52 of Sakamoto et al. clearly and specifically discloses that the invention of Sakamoto et al. includes **a raw green unsintered** composite compact with **a raw green unsintered** compact block buried therein that is baked, and definitely does not teach or suggest that the invention of Sakamoto et al. could or should include a preliminary baked passive component buried therein.

In fact, col. 10, lines 44-52 of Sakamoto et al. clearly and specifically discloses that the invention of Sakamoto et al. does not and should never include a preliminary baked passive component buried in a raw green unsintered composite compact because the combination of the preliminary baked passive component buried in the raw green unsintered composite compact is undesirable due to the requirement to strictly administrate the contraction behavior at the time of baking. That is, Sakamoto et al. clearly teaches away from mounting a ceramic sintered compact on or in a ceramic green unsintered body, and then firing the entire ceramic green unsintered body including the ceramic sintered compact therein as recited in Applicant’s Claim 16.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 16 under 35 U.S.C. § 102(b) as being anticipated by Sakamoto et al.

Furthermore, it would definitely not have been obvious to modify the method of Sakamoto et al. so as to include a preliminary baked passive component buried in the raw green unsintered composite compact prior to baking or firing of the composite compact, because col. 10, lines 44-52 of Sakamoto et al. clearly and specifically teaches away from such a

method.

When the prior art teaches away from the claimed solution as presented here, obviousness cannot be proven merely by showing that a known composition could have been modified by routine experimentation or solely on the expectation of success; it must be shown that those of ordinary skill in the art would have had some apparent reason to modify the known composition in a way that would result in the claimed composition. Ex Parte Whalen II, Appeal 2007-4423, July 23, 2008.

In view of the foregoing amendments and remarks, Applicant respectfully submits that Claim 16 is allowable. Claims 17-22 depend upon Claim 16, and are therefore allowable for at least the reasons that Claim 16 is allowable. In addition, Applicant respectfully requests that the Examiner rejoin and allow non-elected Claims 23-25 along with generic Claim 16.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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